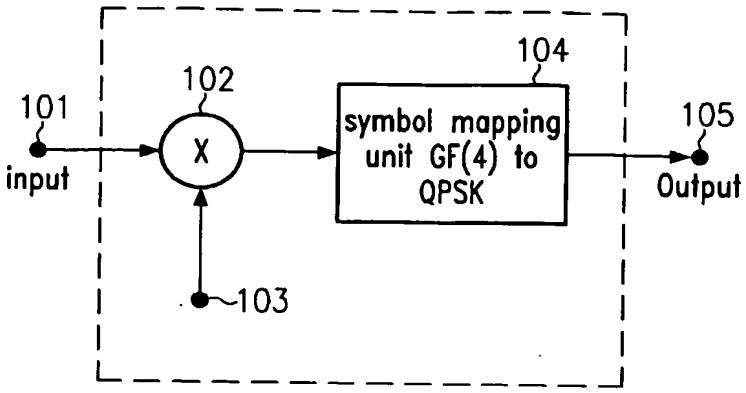

Fig. 1

+	0	1	2	3
0	0	1	2	3
1	1	0	3	2
2	2	3	0	1
3	3	2	1	0

X	0	1	2	3
0	0	0	0	0
1	0	1	2	3
2	0	2	3	1
3	0	3	1	2

Fig. 2

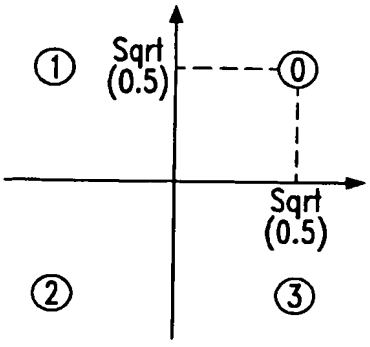

Fig.3A

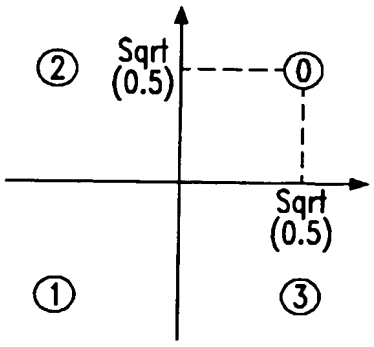

Fig.3B

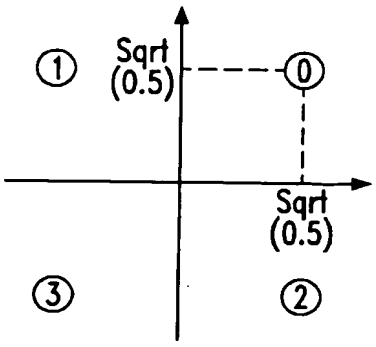

Fig.3C

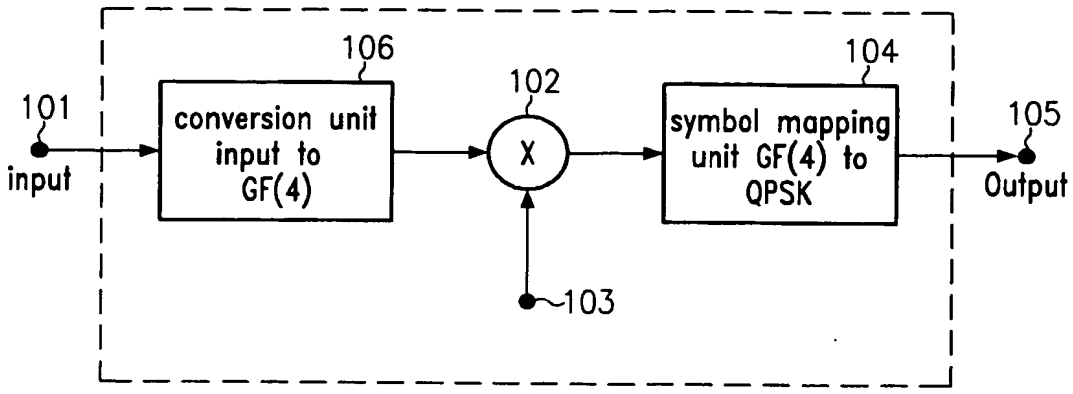
101
input
106
conversion unit
input to
GF(4)
102
X
103
104
symbol mapping
unit GF(4) to
QPSK
105
Output

Fig. 4

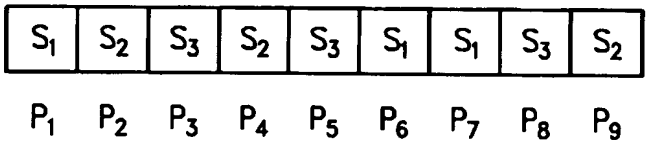
S1 S2 S3 S2 S3 S1 S1 S3 S2
P1 P2 P3 P4 P5 P6 P7 P8 P9

Fig. 5